Study: Geothermal energy could meet large part of U.S. power need

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CAMBRIDGE, Mass. (AP) — The nation could generate a large part of the electricity it will need in the future by tapping the enormous amounts of heat energy locked up in hard rock below the earth's surface, a new Massachusetts Institute of Technology-led study indicated Monday.

Heat mining could supply energy at competitive prices and with minimal environmental impact, according to the 400-page report commissioned by the U.S. Department of Energy to assess the value of continuing to fund geothermal energy study.

"We've determined that heat mining can be economical in the short term, based on a global analysis of existing geothermal systems, an assessment of the total U.S. resource and continuing improvements in deep-drilling and reservoir stimulation technology," said Jefferson W. Tester, an MIT professor who led the 18-member panel.

The United States is the biggest producer of commercial geothermal energy in the world, with most of its plants in California, Hawaii, Utah and Nevada. The systems were the third-largest source of renewable energy in the nation in 2003, supplying electricity to some 2.8 million households, according to the Washington-based Geothermal Energy Association.

The report said that's about as much as wind and solar energy production combined, and it has potential to be a steadier source.

Existing geothermal plants, however, are mainly located in isolated regions of the west, where hot rocks are closer to the surface, requiring less drilling and lowering costs. Other areas could be commercially viable because of improved technology, the report said.

The report recommended more detailed assessments of hot rock deposits, field trials of geothermal energy production sites and more research on the related technology.

Environmental impact of geothermal energy is much less than that of fossil fuels and nuclear energy, though water requirements for geothermal plants could be a problem in arid regions, the report said, and the seismic risk also needs to be carefully monitored and managed.

Although the U.S. leads in global geothermal energy production, it only gets less than half of one percent of its power from that source, Geothermal Energy Association Executive Director Karl Gawell said.

"Heat in the U.S. is an enormous resource," he said. "We've just began to tap it."